A Decoding Algorithm For I-Q Space-Time Coded Systems In Fadingenvironments

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Summary

This paper presents the decoding of the I-Q space-time (ST) codes. The decoding problem of I-Q ST codes is formulated. The use of the super-trellis to solve the decoding problem results in an increased decoding complexity. Therefore, a simplified decoding algorithm is proposed. It is based on symbol-by-symbol detection of the Q/I components in the I/Q decoders. Simulation results showed that I-Q ST codes with the new algorithm provide coding gains over ST codes having the same complexity but with a single encoder